

METHOD AND APPARATUS FOR DISSEMINATING HETEROGENEOUS DATA
THROUGH BRANDED ELECTRONIC INFORMATION DELIVERY CHANNELS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application is related to Australian Provisional Application Nos. 2003906195 and 2003906196, both filed on November 11, 2003 and to Australian Provisional Application No. 2003906529, filed on November 26, 2003. These applications, in their entirety, are herein incorporated by reference.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates generally to the distribution of electronic information via electronic information networks using branded delivery channels. More particularly, this invention relates to the employment of an apparatus that can change its visual and aural characteristics to reflect the brand attributes associated with the content being accessed via the apparatus.

Description of Related Art

[0003] Internet and e-mail users are swamped with information that is distributed via information delivery channels that fail to facilitate brand awareness for the content provider or provide feedback to the content provider of how the content is used. The need exists for a solution that enables various types of digital content to be packaged and delivered in one environment that provides the ability to instantly change its visual and aural characteristics so as to constantly reflect the branding of the content provider and to monitor how recipients use the received content.

BRIEF SUMMARY OF THE INVENTION

[0004] A method and apparatus for disseminating heterogeneous data through branded electronic information delivery channels is described herein. In one embodiment, a conglomerate apparatus is employed with three main elements: an authoring apparatus, a content hub and a client apparatus. The purpose of the conglomerate apparatus is to facilitate the delivery of multiple forms of digital content from a content service provider to a content recipient via a client apparatus that when employed by the content recipient will change its shape, color and other visual and aural attributes so as to reflect branding

specified by the content service provider. To achieve this, the content service provider uses the authoring apparatus to create sets of content items and then associate these content sets with brand attributes. The content service provider can also add control information to the content sets that can control the sequence in which the content recipients can access content. This content and branding information is then published by the content service provider at a content hub that is accessible to the intended content recipient. The content recipient can then access this content and brand information from the content hub. When viewing or otherwise making use of the content using the client apparatus, the branding attributes associated with the content are applied to the client apparatus so that the client apparatus's visual and aural characteristics will reflect the branding attributes intended by the content service provider. In one embodiment, the client apparatus also monitors the content recipient's use of the content items and stores metrics about this usage within a database in the client apparatus. These metrics can then be sent back to the content service provider's content hub and then accessed by the content service provider for further analysis.

[0005] A practical example of the employment of the invention would be for an automobile manufacturing company to use the conglomerate apparatus to distribute information about its new range of vehicles to media representatives. Numerous content items taking such forms as documents outlining the specifications of the new vehicles, video footage of the vehicles' road handling, photographic images of the vehicles and dynamic links to internet pages related to the vehicles could be arranged to form a content set. Branding attributes could be associated with this content set and published on the content hub. The media representatives using the client apparatus could access the content and associated branding attribute information from the content hub. When the media representatives then use the client apparatus to view the content, the branding attributes would be applied such that the client apparatus would appear to be in the shape of one of the new model cars. The car-shaped client apparatus would display the automobile manufacturer's company logo and in the background it could play the company's theme tune. The front windscreen of this car-shaped client apparatus could display a short video footage of one of the new cars. A list of further content items could be displayed after this short video was finished. When any of the content items are selected by the media representatives to be viewed, a car's engine sound would briefly play and the content would appear within an enlarged frame that also carried the automobile manufacturer's company logo and branded color scheme. The metrics gathered by the client apparatus of

the media representatives use of the content items would be sent back to the automobile manufacturer's content hub and the automobile manufacturer could access this information to assess which of the new vehicles generated the most interest with the media representatives.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Additional objects, features, and advantages of the present invention will become apparent from the following detailed description of the embodiments of the invention in conjunction with the accompanying drawings where like reference numerals indicate like features, in which:

[0007] FIGURE 1 is a schematic drawing of an example methodology for a communication system in accordance with an embodiment of the present invention;

[0008] FIGURE 2 is a schematic drawing of exemplary apparatus elements and interfaces for the communication system in accordance with an embodiment of the present invention;

[0009] FIGURE 3 is a schematic drawing of an exemplary client apparatus in various shapes in accordance with an embodiment of the present invention;

[0010] FIGURE 4 is a schematic drawing of exemplary client apparatus element forms in accordance with an embodiment of the present invention;

[0011] FIGURE 5 is a schematic drawing of exemplary client apparatus elements showing persistence of brand identifying attributes in accordance with an embodiment of the present invention; and

[0012] FIGURE 6 is a schematic drawing of an exemplary architecture of the communication system in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF EMBODIMENTS

[0013] In the following detailed description numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will be understood by those skilled in the art that the present invention may be practiced without these specific details. In other instances well known methods, procedures, components, and apparatuses have not been described in detail so as not to obscure the present invention.

[0014] The communication methodology uses a six-stage approach to the delivery of information from a content service provider to content subscriber – creation of content;

wrapping of content with brand identifiers; publication of content and brand identifiers; collection of content and brand identifiers; using content within a branded communication system; and collection of monitoring metrics. Within each of these stages there are additional steps and variations that are relevant depending on whether the content subscriber is a new or established subscriber to the content service provider.

[0015] FIGURE 1 shows each of the stages in the communication methodology. The “content creation” stage 101 involves the creation of content items in any format that the content service provider chooses. The only constraint on the format of the content items is that they must be in a format that can be delivered via the client apparatus (see section below on the communication apparatus for further details). Content items can be any form of communication or information including, but not limited to, such items as text, image, video and audio files, diagrams and links to associated content and Internet URLs. During this stage, the content service provider can also choose to assign “sequence controls” to the content items, which have the effect of guiding the content recipient through the various content items within a content set such that the content items are used in a sequence intended by the content service provider.

[0016] The “wrapping of content with brand identifiers” stage 102 is where the content service provider creates, modifies or confirms the visual and aural attributes of the communication system that will be applied to the client apparatus when using the content set via the client application. The visual and aural attributes that can be applied to the client apparatus include, but are not limited to, the shape of the client apparatus, the color schemes and logos applied to the façade and trays of the client apparatus, the layout used to arrange and present content, and the manner in which the communication system transforms its layout in response to particular types of content, such as resizing windows in which content is displayed.

[0017] The “publication of content and brand identifiers” stage 103 is where the content service provider publishes a content set with its associated brand identifiers on one or more electronic information servers, referred to herein as content hubs, that are accessible to all the intended content recipients. A content set is a grouping of one or more content items that are published at the same time for distribution in total or part to one or more content recipients. This enables the content recipient to access the content set and associated brand identifiers.

[0018] The “collection of content and brand identifiers” stage 104 is where the content recipient uses the client apparatus to collect new content sets and associated brand

identifiers. If the content recipient is a first-time user, then the content recipient must first obtain a copy of the client application and install it on their computing device and then subscribe as a recipient of content from one or more content service providers. For both first-time and existing users, once the client apparatus is running on the content recipient's computing device, the client alerter apparatus within the client apparatus will regularly check for updated content sets and brand identifiers at the content hubs of content service providers to which the content recipient is subscribed. Upon detecting such updated content sets or brand identifiers, the client alerter apparatus within the client apparatus will: collect such updates from the respective content service providers content hubs; store these updates on the content recipient's computing device; and provide an alert to the content recipient that updates are available for use.

[0019] In the "use of content within a branded communication system" stage 105, the content recipient uses the client apparatus to use content retrieved from the content service providers. The appearance of the viewer apparatus within the client apparatus, such as its shape, color and banding, will reflect the brand identifiers linked to the particular content set being used at the time by the content recipient. For example, if the content recipient was using the client apparatus to view and listen to content from a content service provider that was a telephone company, the appearance of the viewer apparatus within the client apparatus could take on the shape of a telephone and its colors could reflect the logos and branding designs of the telephone company and it could play a background audio file that reflects the telephone company's branded musical theme.

[0020] While using a content set, any "sequencing controls" applied to the content set by the content service provider will be applied, with the effect that the content recipient's sequence of using or interacting with the content will be guided through a sequence intended by the content service provider.

[0021] During the "use of content within a branded communication system" stage 105, the client apparatus can also monitor and log metrics of the content recipient's use of the content. For example, the client apparatus could track and record which content items were used or not used by the content recipient. These metrics are stored on the content recipient's computing device. The recording of these metrics can be disabled at the discretion of the content service provider or content recipient for reasons such as concerns over the privacy or confidentiality of such metrics.

[0022] In the "collection of monitoring metrics" stage 106, the log of the metrics of content recipient's use of the content, if available, is passed to the content hub of the

content service provider whose content the metrics relate to. The content service provider can then access these logs for further analysis and reporting.

[0023] FIGURE 2 shows the communication apparatus's three main elements: an authoring apparatus, a content hub, and a client apparatus. These three elements work together to facilitate the methodology described above. Each content service provider requires an authoring apparatus and a content hub. Every content recipient requires just one client apparatus, which can be used to access and use content from multiple content service providers. In certain embodiments, the authoring apparatus and the client apparatus can be combined. Specifically, it is possible for a user to be both a client and an author.

[0024] The authoring apparatus is comprised of several further sub-elements: the brand attributes apparatus 201; the content management apparatus 202; the user management apparatus 203; the distribution management apparatus 204; the publishing and metrics retrieval apparatus 205; and the user metrics apparatus 206.

[0025] The brand attributes apparatus 201, manages the brand identifiers that are to be applied to the client apparatus when the content recipient uses the client apparatus to use the content provided by the content service provider. The brand identifiers control the visual and aural elements of the client apparatus, including the shape and color schemes of the client apparatus's various components, the use of images and logos and the background audio to be played while the content recipient is making use of the content. They can make the client apparatus look like a particular brand of car or telephone, like a house or an old-fashioned radio. They can enable background images and sounds to be played while the content recipient is making use of the content.

[0026] The content management apparatus 202 is used to manage the content items that are distributed to content recipients. These content items can be in any format, such as audio, image, text, video, dynamic links to Internet sites or any combination of formats. The content items are stored in the content database 209 along with other attributes pertaining to the content items, such as the source and version of the content item. The content management apparatus 202 enables the content service provider to select and arrange the content items to be incorporated into a content set that will eventually be published for distribution to content recipients. The content management apparatus 202 can also facilitate the sequencing, availability and interactivity of the content items, such that when a content recipient eventually makes use of the content set, the content recipient

will be restricted to using or interacting with the content items in accordance with the sequence and manner defined by the content service provider.

[0027] The user management apparatus, 203 is used to manage the list of content recipients. Content recipient details are stored in the user database 207 and managed via the user management apparatus 203, enabling the content service provider to add, remove or amend content user details.

[0028] The distribution management apparatus 204 enables the content service provider to determine which content recipients will receive each content set. Drawing on data in the user database 207 and the content set database 210, the content service provider is also able to use the distribution management apparatus 204 to specify which content items within a particular content set each content recipient will receive, such that some content recipients may only receive a sub-set of all of the content items within a content set made available to other content recipients. Alternatively, the content service provider can choose not to restrict the distribution of content at all and can therefore make content sets publicly available to any content recipient, whether the content recipients' details are available within the content service provider's user database 207 or not.

[0029] The publishing and metrics retrieval apparatus 205 is used to publish information from the authoring apparatus to the content hub and to retrieve user metrics data from the content hub to the authoring apparatus. Information published to the content hub includes new or updated data from the user database 207, brand attributes database 208, content database 209 and content set database 210. The effect of publishing this data is to enable and manage the distribution of content with associated brand identifiers to content recipients. Examples of the sort of information that can be published include the publication of a new content set for distribution with an updated set of brand identifiers to a select group of content recipients; the removal from availability of an outdated content set; the addition of new content recipients to the user database 214; and the addition of new brand identifiers to an existing content set. When retrieving user metrics data from the content hub to the authoring apparatus, data is drawn from the user metrics database 218 on the content hub and used to update data in the user metrics database 211 on the authoring apparatus.

[0030] The user metrics apparatus 206 is used to view, analyze, generate reports from and otherwise make use of data within the user metrics database 211.

[0031] Figure 2 also shows the content hub is comprised of two sub-elements: the publishing and metrics retrieval apparatus 212 and the content retrieval and metrics upload apparatus 213.

[0032] The publishing and metrics retrieval apparatus 212 provides an information exchange mechanism between it and its counterpart within the authoring apparatus, the publishing and metrics retrieval apparatus 205. The publishing and metrics retrieval apparatus 212 enables the content service provider that manages the content hub to add, delete or update data within the user database 214, brand attributes database 215, content database 216, content set database 217 and to retrieve data from the user metric database 218.

[0033] The content retrieval and metrics upload apparatus 213 provides an information exchange mechanism between the content hub and the client alerter apparatus within the client apparatus on the various content recipients' computing devices. Based on distribution rules set within the user database 214, the content retrieval and metrics upload apparatus 213 allows authorized content recipients to access updates to content and brand attributes contained within the brand attributes database 215, the content database 216 and the content set database 217. The content retrieval and metrics upload apparatus 213 also facilitates the uploading of metrics from the various client apparatuses used by the content recipients accessing the content hub.

[0034] Figure 2 also shows the client apparatus is comprised of two sub-elements, the client alerter apparatus 219 and the viewer apparatus 220.

[0035] The client alerter apparatus 219 is used to periodically check for new or updated content from content service providers by connecting to the content retrieval and metrics upload apparatus 213 at the content hubs of the content service providers to which the content recipient is subscribed. It is possible for any one content recipient to be subscribed to receive content from one or more content service providers. The client alerter apparatus 219 therefore stores details in the subscribers database 221 so that the client alerter can use this information to access content from all content service providers to which the content recipient is subscribed. The information contained in the subscribers database 221 relating to each content service provider includes such items as the location of the content service provider's content hub within an electronic information network; the authentication details required for the content recipient to access the content hub and the frequency with which the client alerter apparatus 220 should connect to the content hub to check for new or updated content.

[0036] When the client alerter apparatus accesses a content hub, if it detects that there is new or updated content available, then the client alerter apparatus 219 will take a copy of this information from the content hub's brand attributes database 215, content database 216 and content set database 217 and store this information in the corresponding databases in the client apparatus, the brand attributes database 222, content database 223 and content set database 224. The client alerter application will then alert the content recipient, through such means as the use of icons, sounds, messages on the content recipient's computing device or other devices used by the content recipient, so that the content recipient will become aware that new content is available from one or more content service providers. The content recipient will then be able to access the client alerter apparatus 219 to review what new content is available and to access that content via the viewer apparatus 220.

[0037] The client alerter apparatus 219 is also used to publish user metrics to content hubs. The user metrics are recorded within the user metrics database 225 and provide details on how the content recipient uses the content provided by the various content service providers. The information stored in the user metrics database 225 can cover any aspect of the content recipient's interaction with the content and can include for example such items as which content items are used by the content recipient and how often, in what order and for how long they are used. When the client alerter apparatus 219 accesses the content hub of a content service provider, the client alerter apparatus can access the user metrics related to the use of content from the respective content service provider from the user metrics database 225 and publish this user metrics information to the content hub, where it is then stored within the aggregated data in the content hub's user metrics database 218. It is also possible for the user metrics gathering and publishing functionality to be disabled for particular content service providers should there be concerns by any party related to the process, such as concerns about the privacy or confidentiality of such data collection.

[0038] The viewer apparatus 220 is used by content recipients to use the content provided by content service providers. The viewer apparatus relies on the content recipient's computing device to have other apparatuses already installed such that the specific content items can be used. Such other apparatuses can include audio and video playing apparatuses, Internet browsing apparatuses, word processing and office automation apparatuses, image viewing apparatuses and e-mail apparatuses. The viewer

apparatus 220 will select the appropriate other apparatus to make use of the content items based on the format of the content item.

[0039] When accessing content from a particular content service provider, the viewer apparatus 220 will first select the brand identifiers from the brand attributes database 222 that relate to the particular content set being accessed. These brand identifiers information will control the visual and aural aspects of the viewer apparatus so that its shape, color, sounds, feel and banding will reflect the branding associated to the particular content set being used at the time by the content recipient.

[0040] In an embodiment of the present invention where the user has a client apparatus and an authoring apparatus, it may be possible for a first user or content recipient to view and edit content items such that a second user of content recipient (which may also include an authoring apparatus and a client apparatus, or just a client apparatus) can view the changes to the content item as they occur. For example, in an embodiment, the content item may be a word processing document that is stored in the content database 209. When the first content recipient requests the content item, the content item is incorporated into the content set (including the brand attributes and distributed by the content management apparatus 202. As previously described, the client apparatus includes a client alerter apparatus 219 that checks for updates and the authoring apparatus is able to revise content items such that the newer versions are incorporated into the content set. Accordingly, a first content recipient may request the content item that is incorporated into a content set and sent from the content hub to the content recipient. Once the content recipient has the content item, the content recipient, acting as an authoring apparatus, can view and update the content item. Since this revision is synchronized with the content hub, a second user, can receive the same content item at the same time, as the first content recipient updates the content item, new versions of the content item are created and the alerter apparatus 219 for the second content recipient, can retrieve the updated content item. The synchronizing can occur relatively quickly which may, in some embodiments, allow for "real-time" updating of information. Additionally, the second content recipient can, at the same time, also update the content item with its authoring apparatus such that the first content recipient can view updated information.

[0041] This may be especially useful in a corporate environment when two remote users desire to update, for example, a draft of a corporate document.

[0042] FIGURE 3 shows some example shapes that the viewer apparatus can take. The viewer apparatus can be styled to look like a hand-held computing device 301 and

302, or like a telephone 303 and 304. The shape of the viewer can be styled to reflect the banding of the content service provider, such as a car shape for a car dealer, a telephone shape for a telecommunications company or a photocopier shape for an office products company. The functional control icons 305, used to enable such things as controlling the playing of video content items or opening and closing content set trays 302, can be incorporated into the styling of the viewer apparatus, such that they may form part of the object being represented, such as the buttons on a telephone or the handles on a car door.

[0043] FIGURE 4 shows the various forms that the viewer apparatus make take. In its simplest form 401, the viewer apparatus takes the shape of an object, such as a telephone, or a car, and provides the facility to make use of certain content items within that form, such as viewing video content or listening to audio content. The viewer apparatus may also include a tray 402, which can be used to display such things as a summary list of content items within a particular content set or icons to facilitate the launching of associated apparatuses, such as instant messaging of e-mail. A content set may have multiple linked trays associated to it. The trays can also provide a means through which the content controls associated with a content set or content items can be managed. For example, the list of content items on a tray may be restricted until a particular content item is accessed by the content recipient, after which a fuller list of content items may be visible on the tray or additional trays might be available. Individual content items can be viewed within frames 403 appropriately sized for the content item. In this form, the layout of the other elements of the viewer apparatus can be repositioned to improve the use of space within the content recipient's computing device's display.

[0044] FIGURE 5 shows the use of persistent brand identifying attributes in all forms of the viewer apparatus. Company brand icons, trademarks and logos 501; and color themes, stationery, watermarks and audio elements 502; are used in all forms of the viewer apparatus. When specific content items are accessed using other apparatuses not part of the client apparatus, they are displayed within frames 503 that retain the brand identifying attributes 501 and 502.

[0045] FIGURE 6 is a schematic drawing of an exemplary architecture of the communication system of the present invention. The architecture includes a client (i.e., a client apparatus), an executive, an author (i.e., an authoring apparatus), a web server, a DB (database) server, and the engine. The client is generally the end user of the system and can use any computing device (e.g. a personal computer, a cell phone, a personal digital assistant (PDA), etc. Within the client, the assembler, receives each of the objects, for

example, the content items and the brand attributes and communicates with a decrypter for encryption/decryption and compression/decompression operations. The assembler also determines the style or appearance of the objects. The visualization component displays all of the objects to the user.

[0046] The executive is generally a user that receives executive level reporting from the system. The visualization component of the executive is substantially similar to the visualization of the client, however, the executive visualization engine also displays reporting metrics (the metrics were previously discussed). Often, the executive visualization engine may be referred to as the dashboard. Additionally, the assembler for the executive is similar to the assembler for the client but is also able to compile the received metrics into a summary form.

[0047] The author generally creates the objects and sends them out for the clients to view. In embodiments, the author can be, for example, the user who creates a digital business card, or a collectables series. The visualization is similar to the above described visualization except that, in embodiments, it may be a combination of the client and executive visualization such that the author can see what is being sent and have some form of feedback to their transmittal. The author would also have the tools necessary to build the objects they are distributing.

[0048] The web server is generally the interconnect between all of the users of the system (authors, clients, and executives). In an embodiment, as shown in Figure 6, the web server may be running an ISAPI (Internet Server Application Program Interface) instance which receives requests and then passes them onto the appropriate engine. The choice of engine could be made based upon a number of factors including, for example, a load of each engine instance or a type of request received. It would be possible, for example, to have three engine servers and two digital business card engine servers. As would be understood by a person of ordinary skill in the art, these servers could each be separate machines or they can exist on the same physical machine. In embodiments, this architecture enables scalability of the system when needed.

[0049] In an embodiment, each engine may be a threaded queue processor which would determine how to handle each given request. The Engine would speak to a replicant database, if necessary, to spread the load of requests. The replicant database is generally, a copy of the master database that is replicated as and when needed.

[0050] In operation in an embodiment, an author would gather and generate their version of the content set and transmit this. This would be encrypted and compressed and

then sent over the network (by any acceptable protocol, e.g., HTTP, FTP, SMTP, etc.), through the ISAPI and a load balancer to balance the requests as they arrive. The information would be sent to the appropriate engine which would make the content set available to the specific recipients as specified by the author. Periodically, the client recipients would be informed of new content available (a process which may run as a background operation) and could connect over the network and request these new objects. Again, as would be readily understood from the above description, the request would be processed in the typical manner and the data sent to the client. The data would be received, decompressed, decrypted and stored. The visualization engine would then be engaged to display this information to the user. The user may also be able to select what information to receive (e.g., the user can request no sound, or not video data). As the user navigates around the system, this information would be stored and transmitted, in bursts, back over the network, to the engine and could be viewed by the executive.

[0051] As would be readily understood based on the above description, each of the communication links in the system can be a one-way and/or a two-way communication link. It should be readily apparent to a person of ordinary skill in the art where such links would be appropriate.

[0052] Whereas many alterations and modifications of the present invention will be comprehended by a person skilled in the art after having read the foregoing description, it is to be understood that the particular embodiments shown and described by way of illustration are in no way intended to be considered limiting. Therefore, references to details of particular embodiments are not intended to limit the scope of the claims, which in themselves recite only those features regarded as essential to the invention.

[0053] Thus, a method and apparatus for disseminating heterogeneous data through branded electronic information delivery channels has been described.

[0054] The embodiments described herein are intended to be illustrative of this invention. As will be recognized by those of ordinary skill in the art, various modifications and changes can be made to these embodiments and such variations and modifications would remain within the spirit and scope of the invention defined in the appended claims and their equivalents. Additional advantages and modifications will readily occur to those of ordinary skill in the art. Therefore, the invention in its broader aspects is not limited to the specific details and representative embodiments shown and described herein.